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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HISATO SHINOHARA and AKIRA SUGAWARA

Appeal 2009-015419
Application 08/169,127
Technology Center 1700

Oral Hearing Held: June 22, 2010

Before CHUNG K. PAK, TERRY J. OWENS, and JEFFREY T. SMITH, *Administrative Patent Judges.*

APPEARANCES:

ON BEHALF OF THE APPELLANT:

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The above-entitled matter came on for hearing on Tuesday, June 22, 2010, commencing at 9:50 a.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Christine L. Loeser, Notary Public.

MR. ROBINSON: Good morning, Your Honors.

JUDGE PAK: Good morning, Mr. Robinson.

We have a court reporter here today who is going to transcribe the entire thing and that transcript will become part of the record.

You may start any time you wish. You have 20 minutes to argue your case. We know the issues so you may want to focus on the salient aspects of the most persuasive parts of your arguments.

MR. ROBINSON: Okay. Thank you. I would like to start by simply noting that this case has a very long history, a filing date that takes it back to 1993, I believe. It is one of the few 17-year cases as we call them that is still left so it has been a long time getting here.

There has been at least four, I think, Appeal Briefs filed as I am sure you are aware. The Examiner's Answer, the Reply Brief which is when I personally got involved with this case, a subsequent remand and a lot of back and forth that has happened since then.

This case has been somewhat of a focus for me. I spent a lot of time this weekend and yesterday trying to figure out how I can present some concise, focused and helpful remarks based on this rather lengthy history that can be of assistance to you.

One of the things I want to focus on is the case gives us a chance to look at the policy behind the patent laws which is something we don't often get to do in the 20 years I have been doing this. That's because we see some 35

USC 112 first paragraph issues in this case with respect to enablement and with respect to adequate written description or support.

What we have here from a policy standpoint is does this application meet the requirements for what the Applicant is expected to give to the public in exchange for the grant of the patent. That is what I think is a touchstone in this case.

Just briefly, I think it helps to stay focused on the claims, and I would like to group these, not from a legal grouping standpoint before the Board because I don't really see as to where there was much discussion about it in the Brief but in the context of the arguments.

We have two sets of claims that are the same that are rejected under 112 second paragraph as indefinite and as lacking written description. Of these claims, claims 61, 71, and 151 are the salient independent claims that I will focus on.

After that, claims 61 and 71, together with some dependents, have a 112 first paragraph enablement rejection. So those are the fundamental rejections that are at issue in the case.

The second area that I will touch on is the obviousness-type double patenting over Shinohara. It is easier in this case to look at which claims are not rejected. I believe all claims are rejected except for claims 176 through 180.

Those claims are unique in this case because from what I can see in the record, there's no rejection against them. Those claims should be in condition for allowance or allowable subject matter. They are dependent claims, of course, that would have to incorporate the independent claims but I don't see a rejection against those.

There is a significant number of claims, including independent claims, that are only subject to the obviousness-type double patenting rejection.

I'm going to model my remarks after the Reply Brief. The Reply Brief is what I took responsibility for drafting and am most familiar with and obviously I am biased toward it but I feel that it presents the issues in the most clear way.

Primary issue in this case is a limitation in claims 61, 71 and 151 of removing an insulating layer, comprising silicon oxide from an upper surface of the crystallized semiconductor layer. That limitation is recited in these claims and there is no recitation of forming the silicon oxide layer and that's caused difficulty throughout prosecution of the case.

I would like to approach this almost from a clean slate. I think it is helpful if we look at what the law requires and how this limitation meets those requirements of the law.

We can discuss the Examiner's positions and a lot of the arguments and back and forth that's happened in the record to the extent that it's helpful for Your Honors, but initially, looking from the top down has been most helpful for me.

When I look at the 112 indefiniteness rejection, I understand the test here that we are looking at is, can the claim be interpreted by a person of ordinary skill in the art so that they can understand the metes and bounds of the claim?

Alternatively phrased, can they know what they need to do to avoid infringement?

In this particular case, I don't see any indefiniteness. The claim requires removing the insulating film from an upper surface of the semiconductor

layer. I don't know what's unclear or what one of ordinary skill in the art would have difficulty in understanding to avoid infringement of that claim. If they remove the silicon oxide layer as claimed from the upper surface of the crystallized semiconductor layer, then they would meet this limitation. If they don't remove the silicon oxide layer, then they wouldn't meet this limitation.

So a lot of the discussion in the various Briefs about whether this layer exists or whether it doesn't exist, I think from a pure analysis, it doesn't matter. If it doesn't exist, then it can't be removed, then it can't infringe, obviously, because you wouldn't meet this step.

I believe in looking at this from that standpoint, the claim is clear and doesn't have any indefiniteness to it.

The same limitation then is subject to some 112 first paragraph written description enablement rejections.

So looking first at written description also support, if you will, the general legal standard, as I understand that, is that does the specification convey with reasonable clarity to the person skilled in the art that the Applicant was in possession of the invention?

So it's the possession test and we see this a lot in the support context. At the time of the invention, did the Applicant, the inventor, possess this?

Importantly in this case, there is literal support, as an initial matter, straight out of the specification for this. So page 12, line 1, I'm sure you have looked at it, there's a discussion in there that says removing the silicon oxide layer 59 from the upper surface.

There's disclosure before that and after that, that does describe in the preferred embodiment various steps which do include forming the silicon

oxide layer. In these claims, the Applicant has decided not to claim every single step of the preferred embodiment but rather more broadly claim the features of the invention.

So focusing on this limitation of whether or not the Applicant possessed the removal of the silicon oxide layer, I believe looking at the specification, the explicit support in there, the disclosure of how to do it which we will touch on in a moment by etching, there's clear evidence that they were in possession of this particular feature.

Turning to enablement, again, the legal standard is was one of ordinary skill in the art enabled to make use of the entire scope of the claimed invention without undue experimentation?

Again, there's two issues on this. One hasn't really, it's been played out a little bit. The question here is the entire scope. That is really where we come down to on this case. I feel this claim is broad but not indefinite and doesn't fail the requirements of 112 first paragraph.

The issue of enablement is, can one practice the entire scope without undue experimentation? If we look at the specification, we tell one of ordinary skill in the art how to remove the silicon oxide layer, specifically by etching. I don't think we provide a lot of details about how that etching is done but by the time this application was filed in 1993, one of ordinary skill in the art was in possession of the tools and knowledge that they needed to remove layers.

As Your Honors are aware, I'm sure, the formation of these semiconductor devices, there is a lot of layers that are formed, removed, etched, patterned, and this is all fairly common in the prior art. So I feel that at the time of the invention, the legal standard of enablement is clearly met in this case.

The issue of the scope of the claimed invention, this case comes up through the chemical side and so we often see in the chemical arts beyond the enabled, a claim beyond the scope of the enabled disclosure.

I'm not a chemical guy, I will be the first to admit that. I'm an electrical guy, but I understand that a single disclosure to one species may not be enough to claim a genus because in the chemical world, the art is unpredictable. We are not sure what is going to happen, you don't understand exactly how all the chemicals will react or what the result will be.

But in this case, the scope of the claimed invention, I view the claimed invention is what we have in the claims at issue here. The scope is broad but I don't feel that the claim gets beyond the scope of the enabled disclosure. All the claim requires is that we remove the silicon oxide layer from the surface of the semiconductor material.

JUDGE PAK: Counsel, in order to remove the silicon oxide it must necessarily be present, right?

MR. ROBINSON: You cannot remove something that's not present, I agree.

JUDGE PAK: So technically, by not deciding how and when you are adding that silicon dioxide, that you could include multiple techniques and methods which is not even discovered at this point in time in forming the particular layer, right?

MR. ROBINSON: I don't necessarily know that we would include those because the invention is the removal of the silicon oxide. So to use your example, if someone were to discover a new way of making silicon oxide, our patent wouldn't cover that because our patent covers the removal of it.

Yes, our patent may cover a method that includes all of the detailed steps which, by the way, includes a lot of laser processing steps. This is kind of not the gist of the invention but it's in there.

No matter how that layer is formed, the removal of it is the touchstone for our case. We don't consider this a necessary feature. It's not a critical feature to the invention.

It is not disclosed in the specification as critical. It is not disclosed as necessary, and it is our intent that the claim is broad, and it is our intent that the claim covers the removal of any silicon oxide film. That's our invention.

JUDGE PAK: However it is formed, whether it is through a future discovery or through currently existing technology.

MR. ROBINSON: I believe the claim is broad enough, Your Honor, yes, because I don't think that this claim is intended to cover how it is formed. The invention and the scope of the invention is the removal of the layer.

I think -- this troubles me as well and I think it troubles you. I thought about this a lot. In fact, we went out and we provided another patent that Examiner Padgett prosecuted that involved removal of foreign oils and impurities, but it never discussed where those were provided.

That's a little different because it is foreign or it's impurities, but we see this a lot in the patent law.

We will see, for example, forming an insulating layer over a substrate, but we never disclose or claim where the substrate comes from. Again, that's slightly different because it is providing an element as opposed to removing something.

That's why, when I started to think about this case, approaching it from the

top down, from what does the law require, it seems to me it meets those tests. If we start to get taken into this uncertainty about where the layer came from and so on, yeah, you can start to hypothesize and, in hindsight, view uncertainty in the claim but when you look at it from the top, I don't see it there.

JUDGE SMITH: I have a question as to where is this insulating layer. Where is it on the substrate?

MR. ROBINSON: It's not on the substrate. It is layer 59 in the specification.

JUDGE SMITH: Why in your claim couldn't it be on the substrate that you are providing? Based on the argument that you just presented of not knowing where the substrate came from so you provide a substrate that comes with an insulation layer.

MR. ROBINSON: Well, the limitation that is at issue discussing removing the insulating layer comprising silicon oxide further recites from an upper surface of the crystallized semiconductor layer. So the limitation that is at issue here focuses on the location of that silicon oxide layer.

JUDGE SMITH: That's what my question is. Where is it located?

MR. ROBINSON: It is located on the upper surface of the crystallized semiconductor layer. I may not be understanding your question. It is layer 59.

JUDGE SMITH: What I am trying to take out, I'm trying to understand your claim. The claim is broad enough to read on forming an insulation layer or part of the substrate as provided, crystallizing another portion of the substrate and then subsequently going back and removing that from the layer of the substrate.

MR. ROBINSON: I may, with respect, if I understand you, I may disagree with that. The claim 61, it has this ion blocking film over the substrate. I want to make sure that I mention this is not the silicon oxide layer that is being removed.

And this, I have to say, I believe there is confusion about this in the Appeal Brief because it was referred to as layer 53. I believe that was wrong. The Appeal Brief may have other errors in there, not the least of which is the reference to 45 USC instead of 35. But all that being what it is, the ion blocking film over the substrate and then the non-single crystal and semiconductor layer, those are not the silicon oxide layer that is being removed.

JUDGE SMITH: Does your claim require that the entire substrate, as covered by your ion blocking layer, could be a portion of it?

MR. ROBINSON: Could be, yes.

JUDGE SMITH: The other portion could have a silicon oxide insulating layer over it.

MR. ROBINSON: Yeah, but the silicon oxide layer that is being removed is on the upper surface of the crystallized semiconductor layer and that crystallized semiconductor layer, if we follow it back, comes from a non-single crystalline semiconductor layer that then is irradiated by the laser process that's here.

So I don't think the claim could be interpreted to have silicon oxide removing a portion of the substrate that had an oxide on it because I don't think it ...

JUDGE SMITH: So in other words, the way we are supposed to read the claim, you form your ion blocking layer, you form your non-crystalline

layer, you insert the nondescribed forming of an insulation layer and then go on from there. Is that what you are saying?

MR. ROBINSON: I think so, except for insert part. I think the way the claim is intended to be interpreted is ion blocking non-single crystalline, laser radiation process with the details that are involved in that, then removal of a silicon oxide from the upper surface of that layer, whether it was deposited in a step that is not claimed, because it is an open-ended comprising claim, whether it is a naturally forming oxide, whether it is done by a future method.

You know, I joke to someone saying, whether it is Santa's elves come through and put it down.

No matter how it gets there, then we remove it. That is where the breadth of this claim comes in. We remove the silicon oxide from the upper surface and then go on to form the plurality of thin film transistors.

JUDGE PAK: Counsel, this future method of forming silicon oxide, let's say it cannot be removed by etching method but some other new method, which is not excluded by the present claim.

MR. ROBINSON: Okay.

JUDGE PAK: Would the present disclosure enable that type of situation?

MR. ROBINSON: Well, Your Honor, it's almost impossible to answer the question without, in the abstract, without knowing more about how different it is. But to the extent that the removing process is something that's completely different than etching ...

JUDGE PAK: Than what you disclosed, completely different from what you disclosed.

MR. ROBINSON: Yes. From what we disclosed.

JUDGE PAK: Let's say it is a new method clearly claiming inclusive as written because it only says removing, it doesn't say how.

And of course, we don't know how the silicon oxide gets there and it could be a future undiscovered at this time. I'm just asking in that situation with the present disclosure ...

MR. ROBINSON: The answer to that question is I probably don't know. I think the literal reading of the claim would still cover that but how that claim would be interpreted by a judge in a Markman hearing, in other words, when they look at the removing, would the judge limit that to an etching step, meaning that removing requires etching, I don't know.

JUDGE PAK: Aside from the Markman hearing, we have different mode of claiming interpretation at the Patent Office, as you know, during the prosecution you brought us reasonable interpretation. That identification includes the situation I just mentioned.

If that's the case, would the present disclosure be sufficient to enable one of ordinary skill in the art to carry out the claimed subject matter as interpreted in that manner?

MR. ROBINSON: I don't know that I can answer that because I think you and I may differ on whether that's a reasonable interpretation because we are talking about a hypothetical future process that forms a special type of silicon oxide layer, different than what we know today, that can't be removed by the processes that we know today.

So stepping into that, I think the best answer I can give you is literally this removing step in the claim would cover it.

Would the methods disclosed in our specification allow that to happen in the hypothetical situation? Perhaps not. I think that's one of the conditions of your hypothetical is that it can't be removed by etching.

But that analysis, we could take that analysis to almost any claim that we see. For example, forming a semiconductor material, which is in hundreds, if not thousands of patents.

We describe in the specification ways of doing that through chemical vapor deposition, for example, but in the future, the claim just says forming a semiconductor material. Does that cover a future process that isn't enabled by our specification because it's done using plasma fusion or some new technique when the claim just recites forming a semiconductor material.

Academically, I don't know how that plays out and where the law is. I don't know the answer to that.

But that doesn't, in my mind, change the fact that the claim is definite, it meets the written description requirement and it's enabled for what's claimed here, based on what is in the specification.

I'm sorry if I don't understand your question. Was that responsive or am I missing your point?

JUDGE PAK: I understand your argument. Let's leave it at that at this time.

MR. ROBINSON: I would love to have that discussion.

JUDGE PAK: The outcome may very well be depending on how you want to interpret this claim. If this claim is interpreted to include future developments, I think there is a problem with the intervening disclosure.

If it does not, because we interpret the claim reasonably and consistent with the specification, then from my perspective, it would be unjustified to take that hypothetical position into this situation.

MR. ROBINSON: Okay. And I think the same standards that apply to future developments with respect to a large number of claim limitations, we are not arguing anything different than what would be applicable in those cases.

Is there any other questions on the 112 issues that I can answer? I don't know how much time I have left, but with respect to the obviousness-type double patenting.

I guess before I get there, I do want to mention one point that's interesting about this case that is more important than that. Claims 176 to 180, they do recite the formation of the silicon oxide layer and they are not rejected and therefore considered allowable so if we move those claims into the independent claim, theoretically, the claims are allowable.

That is effectively narrowing the claim. In my experience, I like to think that the prior art is what controls how broad I can claim. I keep going as broad as I can until I bump into the prior art and the Examiners or Your Honors tell me I can't.

I view 112 first paragraph of the other side. That controls how narrow I can go. In this particular case, what is particularly interesting, is if I narrow my claim, the 112 first and indefinite rejections go away.

I'm not changing this limitation that is supposedly indefinite at all. I am adding another limitation and it goes away.

That to me seems, that's what's been bothering me. It seems like it is upside down, and I want you to think about that as well when you look at this case.

With respect to the obviousness-type double patenting, we didn't talk about it in detail in the Reply Brief. The feeling is, is that in the Reply Brief, it was mapped through fairly closely. And, of course, one of the critical

features is the same feature, this removing step and we don't feel that that's in the Shinohara which is actually, I prosecuted that patent and it issued in 2001.

It's the child of this case that then issued before this case did. Of course, the obviousness-type double patenting rejections are important because based on my understanding, the Shinohara 856 is expired. Thus, if the double patenting rejections are maintained and a terminal disclaimer is filed, I think our patent is expired.

It would not be the first time I have issued an expired patent, I have done that, but I don't want to do it again.

The obviousness-type double patenting rejections are critical and we think there's a lot of the differences that are mapped out. There's certainly some similarities on the laser processing but we think that this step of removing the layer, for example, is one area that is a distinguishing feature.

JUDGE OWENS: If one of ordinary skill in the art interpreted the claim limitation in Shinohara starting at column 7, line 5, moving said substrate with respect to said laser beam in the direction perpendicular to said first direction whereby the semiconductor film is crystallized, would such a person have considered it obvious to form the silicon dioxide film 59, the same number as the film in the present application, as part of carrying out that step, would the person have interpreted that step as requiring a silicon oxide film to be formed?

If not, how would it be done?

MR. ROBINSON: I don't believe that that, this step of moving the substrate with respect to the laser beam, as I'm understanding that, what's happening

in that case is the substrate is being slid like this underneath the laser beam to scan a given area for crystallization.

JUDGE OWENS: It has a silicon oxide layer on top of it.

MR. ROBINSON: In the preferred embodiment that is disclosed here, yes, the silicon oxide layer, and we see that, I believe, in figure 7, for example, the silicon oxide area 59 is formed and the laser is applied.

JUDGE OWENS: How would you do it without forming the silicon oxide layer?

MR. ROBINSON: How would you scan the ...

JUDGE OWENS: How would you accomplish this result to end up with thin film transistors if you don't have the silicon oxide layer there?

MR. ROBINSON: The laser would be irradiated directly to the surface of the silicon material if the silicon oxide wasn't there and would as a result crystallize that silicon material.

And, in fact, the silicon oxide irradiating through the silicon oxide in this particular case may be the more unusual case. I see in most instances the laser is irradiated directly to the semiconductor material for crystallizing it. So what's happening here is the laser beam is being expanded. We create this fan beam and the point of this expanding and contracting is to result in energy homogenation. That is what all these limitations that are in the claim with respect to the laser process and then that laser fan beam is scanned.

I had used more of a laser beam example here. The truth of the matter is that laser may be more of a fan that is scanned across in this direction. It also can be a continuous beam or it can be a pulse beam.

That doesn't necessarily respond directly to your question, but in this particular preferred embodiment, the silicon oxide layer 59 is formed and

then the laser is irradiated, I believe, and you are asking if there was no silicon oxide layer, could you still crystallize the semiconductor material and I think that answer is yes.

JUDGE OWENS: And get the same product they are getting in that claim.

MR. ROBINSON: Yes. I believe that's true.

And that in this 856 patent that issued, the silicon oxide layer isn't discussed and again, it is not discussed with respect to removing it and it is also not discussed with respect to forming it.

Again, we think that goes back to the fact it's not an essential or critical limitation. This claim, which is focused on other aspects of the invention, didn't have anything to do with that silicon oxide layer. Claim 1 of 856 is what I am referring to.

JUDGE OWENS: In the 856 specification, it says that the, after the crystallization, the layer 59 is etched off. That's exactly what your specification discloses, what's in your claim.

MR. ROBINSON: Yes. This specification of 856 is identical to our specification because they are related by continuation and divisional. So that's correct.

This portion that we see in 856 at column 6, line 10 or 11, corresponds to our specification, page 12, line 1, I believe. This is where we feel the support, i.e., adequate written description for removal of the silicon oxide layer, is provided.

JUDGE PAK: Is there anywhere in the prior art disclosure, technically they are not prior art but for the purposes of patenting, is there anywhere in the disclosure of that method of manufacturing an active matrix displace device can be done without removing this insulating layer.

MR. ROBINSON: This specification is the same as our specification and my understanding is there's no specific discussion that you can do it or should do it without removing that layer.

This is, again, this is a preferred embodiment of the invention and it is not what is considered to be a critical feature. So effectively, this disclosure was, I believe, more focused on the process involved with this laser beam and this laser irradiation. So a lot of focus wasn't made in the specification on this formation of the silicon oxide layer and its removal.

JUDGE OWENS: Where is the disclosure you are relying upon for this being a preferred embodiment?

MR. ROBINSON: The fact that in column 3, well, again, we are now using the 856 disclosure but in column 3, it says the detailed description of the preferred embodiments so all of this discussion including this discussion of figure 7, I believe, is one of the preferred embodiments.

JUDGE OWENS: But they don't give any other embodiments.

MR. ROBINSON: I would have to look. I see that figure, I mean, this is all figure 1 through figure 7, and I know figure 7 refers here in column 5, line 25, a second embodiment of the present invention so I can see that here that this appears to be a second embodiment that is focused in figure 7A onward.

JUDGE OWENS: That's what corresponds to or claim 1 corresponds to that, doesn't it?

MR. ROBINSON: Yeah, I believe so because this figure 7 is manufacturing a thin film transistor for an electro-optical device such as an active matrix liquid crystal device.

That's what I see in the preamble of claim 1, and figure 1 is directed to the laser scribing apparatus that shows more of the laser structure and how the laser beam is generated.

So there are some aspects of that laser beam generation that is claimed but primarily, this figure 7 process is what's directed, the claim is directed to. It says in the specification, hey, use that laser.

The exact words are the same laser system used in the first embodiment is employed for crystallizing. So in the first embodiment, we have a disclosure of a laser system and its use in that embodiment with respect to this scribing process and then in the second embodiment, we disclose how to form this active matrix device and say use that same laser here.

JUDGE OWENS: So you are saying Shinohara's claim 1 encompasses both embodiments?

MR. ROBINSON: Well, I guess I don't know about encompasses both but I think that it is using, there are certain features that are disclosed in more detail in the first embodiment, such as the details of the laser and then the second embodiment describes how you use that laser in forming the active matrix circuit and device which is a part of claim 1.

JUDGE OWENS: In column 4, line 32, they are talking about making a glass substrate for liquid crystal displays. Is that the first embodiment?

MR. ROBINSON: I don't know, Your Honor. I would have to study this in more detail but I believe that may be part of the first embodiment.

JUDGE OWENS: That's considerably different than the second embodiment. It looks like claim 1 claims the second embodiment. And the question is, if it does, why wouldn't one of ordinary skill in the art have

interpreted that claim as implicitly including the formation and removal of the insulated layer 59?

MR. ROBINSON: Because one of ordinary skill in the art shouldn't read into claim limitations in the specification. There are any number of preferred embodiments disclosed in the specification that include a number of steps that are not included in our claims.

We do that every day and, of course, the open-ended language comprising means that there may be other steps that are involved in that.

What's troubling here is the removal recited without the formation. If we add that formation in, suddenly the removal, by moving claim 176 in, the removing step is suddenly definite and if we take it out, the removing step, the claim that we see in 856, which is similar, also meets the test.

So I think one of ordinary skill in the art wouldn't necessarily read into the claim limitations that aren't there and I don't think they should read that in from the specification.

JUDGE OWENS: From this disclosure, how would they make the product of claim 1 without that insulator layer 59?

MR. ROBINSON: Well, one of ordinary skill in the art could simply follow the steps that are in here by including the formation irradiating with the laser and then if there is a silicon oxide layer there, they would remove it.

Again, I want to be clear that one of ordinary skill in the art may or may not do every limitation that is in this claim. This comes back to the question if there is no silicon oxide layer, it can't be removed. No, it can't be removed and if it is not removed, then it doesn't infringe this claim because the claim requires the silicon oxide to be removed.

So if one of ordinary skill in the art were not to form the silicon oxide layer and not remove the silicon oxide layer, any silicon oxide layer, then they wouldn't infringe this claim. But the claim is broad because it is intended to cover other silicon oxide layers that may be there, not necessarily future layers formed in different ways.

Because we could recite forming a silicon oxide layer and still get around the future problem if we recite forming a silicon oxide layer and removing it, that's claim 176. Claim is allowable and the whole future question that Judge Pak has raised still hangs out there but that claim is considered to be allowable.

So I think that would be the answer. They shouldn't be reading limitations in from the specification.

JUDGE OWENS: But they should -- you are relying upon ability in the art that isn't reflected in the specification, the ability to make this without the insulator layer. That's known in the art.

MR. ROBINSON: I don't know that, I don't know that we are necessarily relying on the knowledge in the art to make this without the insulating layer. I think it probably could be made without forming the insulating layer but I think to the extent that this is an enablement question –

JUDGE OWENS: Not enablement. We know they would be enabled to make it with the insulating layer.

MR. ROBINSON: Right.

JUDGE OWENS: The question is, how would one have interpreted this claim? Would one have interpreted it as including the insulating layer and if not, how would it be interpreted? What would be the basis in this disclosure for interpreting it differently?

MR. ROBINSON: I think the basis in the disclosure is that the -- it comes back again to the fact that it's a preferred embodiment where we form the silicon oxide layer intentionally and then remove it.

If one of ordinary skill in the art sits down to practice what's in the claim and they irradiate it, when they reach that point in our claim of removing the silicon oxide layer, which we teach them to do and we teach them how to do, they can look at their device and they can say, is there a silicon oxide layer there and if so, they can remove it.

Again, this comes back to my Christmas elves, natural oxidation, depositing, future methods, however it gets there, we tell them remove it and then proceed to make your TFTs. If it is not there and they don't need to remove it, they say, Oh, it's not there and then they move on with their device.

JUDGE OWENS: I'm addressing the obviousness-type double patenting rejection.

MR. ROBINSON: Right. I'm catching up to you now. I'm a little slow. You are saying, would it be obvious? Is the step of removing an obvious variation over the claims of 856 because one of ordinary skill in the art would know that it has to be removed.

I think the answer to that question is we shouldn't be looking at the specification of 856 when we are doing an ODP, an obviousness-type double patenting. We have to treat this claim 1 as prior art. Claim 1 doesn't discuss the depositing or the removal of the silicon oxide layer.

One of ordinary skill in the art can interpret claim 1 by going and reading the specification but when they start to interpret it by adding limitations in, they have gone too far.

JUDGE PAK: But it depends on the situation, am I correct? Sometimes that the claim's limitation must be imported from the spec because to do otherwise, you would not understand the, for example, let's say preamble of the claim.

You have got to give meaning to the preamble of the claim. You have got to form the matrix material and without that step, you would not form the preamble of the product. Then that preamble limitation necessarily includes what's disclosed in the specification.

That's how you interpret it. Otherwise, what you have is your product, inoperative product, right?

MR. ROBINSON: Well, I make that same argument every day downstairs. Examiners tell me, No, you can't drag things in from the specification because your arguments are narrower than your claims.

I would offer to you that the distinction there is are we interpreting something that is in the claims by looking to the specification and does that specification breathe the life and meaning into the preamble.

Those are the buzz words. But are we interpreting what is there or are we adding something that is not there? Are we bringing a new limitation in.

That of course, there's a line there with gray area on either side in each case but Judge Owens' question was, would it be obvious to remove the silicon oxide layer when we interpret this claim?

I don't think it is because that removal step is bringing in, that's a completely new limitation in the claim of 859 and so is the forming step that would have to come in. I don't think that is interpreting the claim. I think that's adding limitations and I do believe that goes too far.

JUDGE OWENS: Unless it's implicit in the interpretation of the moving step followed by the forming step to get the transistors. If that requires the insulating film, then why wouldn't one of skill in the art have interpreted those limitations in view of the spec as including it?

MR. ROBINSON: I don't believe that those limitations require that.

JUDGE OWENS: We don't know that from the spec. All we have is that one disclosure that it's formed.

MR. ROBINSON: Right. We have that one disclosure and we have this claim. So again, I treat this claim as prior art and I ask myself, is the claim of the application we are discussing, 127, obvious in view of this?

I put on my Examiner hat and say, how do I make that obviousness argument? I have to say it's not anticipated because it doesn't have the removal step so it would be obvious to remove that and your argument is because it would inherently be formed from the moving of the substrate or the irradiating.

JUDGE OWENS: They are different in scope. Therefore it would be an obviousness-type double patent rejection not the same invention.

MR. ROBINSON: Right. Not the same invention. They are definitely different in scope but again, I think that looking at this claim without going and looking at the specification, one of ordinary skill in the art would know that there may or may not be, the silicon oxide layer may or may not be there.

I don't know that it is necessary. It is not disclosed in the specification as necessary. It is not disclosed as critical. In the preferred embodiment, yes, it is there. In the preferred embodiment, gate insulating layers and other ion doping and things are done.

JUDGE PAK: What you are saying is that the claim as presently recited includes those alternative methods, including at least minimum removing silicon oxide, right, based on the specification. That's how they make their transistor. Am I correct?

MR. ROBINSON: In 859 or in either case?

JUDGE OWENS: In the Shinohara.

MR. ROBINSON: Shinohara 856, yes, the disclosure, the preferred embodiment, is they make that insulating area and then they make their transistor.

JUDGE PAK: That isn't necessarily encompassed by the claims of Shinohara.

MR. ROBINSON: No, I don't believe it is. I don't believe that because that is disclosed as part of the process just like there is any number of other steps that are disclosed as part of the process that we read all of those into a claim limitation that maybe broadly says forming a plurality of thin film transistors.

I don't think the step of forming a plurality of thin film transistors using that necessarily, together with the moving step, necessarily implies that every detail from the preferred embodiment, including the formation movement of that insulating layer, is imparted in the claims.

JUDGE PAK: When you say forming, they are saying that any method describing the specification, isn't it? Just like when you said moving, it means any method as shown or illustrated in the specification.

You didn't specify how it is formed or you didn't specify how it is being removed.

MR. ROBINSON: In 859, you are correct. We just simply claim forming a thin film transistor. So it could include the formation of the insulating layer and the removal as in the preferred embodiment.

But the claim doesn't recite that. And the question is, is it obvious to a person of ordinary skill in the art without going in hindsight and looking at our specification to add those.

JUDGE OWENS: The question is, would one skilled in the art, given only the disclosure of forming the insulating layer, have interpreted the claim as not including the insulating layer.

It's obviousness because they are different in scope, not because it was obvious to one skilled in the art to modify the claim.

MR. ROBINSON: This claim doesn't recite forming either, correct?

JUDGE OWENS: Right. But the spec indicates that as part of the claimed process of forming the active matrix circuit with the transistors, this insulating layer is formed and then removed.

The question is, would one of ordinary skilled in the art have interpreted those steps that are recited in the claim as including that formation, thereby making it an obviousness-type double patent rejection because of the different scope, not because it is obvious, it would have been obvious to modify the claim.

MR. ROBINSON: My feeling on that, of course, my feeling is, no, it isn't because the forming of the thin film transistor, one of ordinary skill in the art would know, includes, there's a number of different ways that they could form it. Certainly thin film transistors do not always include in the formation step what you are suggesting.

JUDGE OWENS: That's not in the disclosure here. That would have to come from somewhere outside the disclosure.

MR. ROBINSON: It would come from the knowledge of one of ordinary skill in the art, correct. I have to say I always get nervous when looking at the disclosures in obviousness type double patenting rejections.

I think I am with you in interpreting this claim limitation to include does forming mean all of this in the disclosure. I think forming only means the process of doping the thin film transistor, performing the gate electrode, forming the gate electrode and those features which, my eyes are going.

JUDGE OWENS: Which includes forming the insulating layer and then removing it.

MR. ROBINSON: That's what I don't agree with because I tend to think the forming of the TFT starts to pick up in column 6, line 12, right after that layer is removed. That's why they say the insulating layer 53 is functioning as a gate-insulating layer. It talks about another one.

JUDGE OWENS: But the moving wouldn't be included. It would be on there during the moving step.

MR. ROBINSON: If one were to practice what's written here, then they would form it and put it on there, yes, but the moving step doesn't necessarily require that it be here. The moving step is simply moving.

JUDGE OWENS: But we don't know that from the spec, all we know is doing it with the layer there. That's all we know if we are given nothing other than the disclosure.

MR. ROBINSON: If you are looking at this disclosure, yes, but if you are given the claim, you don't know anything about that layer. That layer

doesn't exist and in fact, TFTs are made every day without any discussion whatsoever of that layer.

JUDGE OWENS: Based upon information that comes from elsewhere.

MR. ROBINSON: It does but again, also looking to the spec when we interpret the claim for OPD, again, it makes me nervous. I don't like to do that because I think it brings, it invites hindsight and invites bringing limitations from that specification into the claim that are not necessarily present.

I certainly think if I was making that argument on the other side, saying that prior art doesn't disclose formulating the insulating layer and our claim does include that, I think every Examiner in this Office could say, your claim doesn't recite that and they would insist that I recite it expressly.

You are squeezing me from those two positions.

JUDGE PAK: We have no more questions. Thank you for explaining your positions.

Whereupon, the proceedings at 10:41 a.m., were concluded.